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RECONSTITUTION ON THE AIRLAND INTEGRATED BATTLEFIELD

JAYCOR

**205 South Whiting Street, Suite 500
Alexandria, Virginia 22304**

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SECTION I GENERAL CONSIDERATIONS

1. INTRODUCTION.

This paper sets forth some considerations regarding feasible actions to ensure continued and controlled operations on the battlefield by brigades/divisions which have lost significant elements of command control, combat, combat support and combat service support forces.

a. Definitions. There is a variety of terms that denotes the types of actions necessary to restore (or regain) the capability to conduct continued operations with attrited brigade (division) units. The term that appears to be much in vogue at the present is "reconstitution". However, this term means different things to different people and, more important, depending on the definition adopted, infers different actions. For example:

(1) Unit Reconstitution. To provide personnel and equipment, either from external or organic resources, and training (circumstances permitting) to restore to a combat effective status a unit which has incurred such severe losses in personnel and/or equipment that it is incapable of accomplishing its mission. In active combat, reconstitution may involve assembling the remnants of two or more units, establishing unity of command and a chain of command and arming/equipping the force with weapons and equipment which are immediately available. (DTAC, C&GSC, Ft. Leavenworth, KS, March 1981.)

(2) Reconstitute. . . . 3. To reform or remake, such as to reconstitute a reserve. (AR 310-25, Dictionary of US Army Terms, 12 April 1977.)

(3) Reconstitution. The task of a timely regeneration of the force in terms of people, organizations, command structure and materiel during and in preparation for battle. (TRADOC Pamphlet 525-5, The AirLand Battle and Corps 86, 25 March 1981.)

(4) Reconstitute. To reconstruct; to recompose. . . (The Random House College Dictionary, 1980 revised edition.)

b. Scope. While the above definitions may differ, they all have one thing in common, and that is the restoration or reestablishment of a capability that has at least in part been lost or degenerated; restorative actions are sought that return the overall force capability back to one of soundness. This section briefly reviews the historical concepts of reconstitution, examines Soviet doctrine for integrated operations and sets forth alternatives to be considered in restoring a capability for mission accomplishment within brigade and division resources.

2. BACKGROUND.

Materiel and personnel losses in previous conflicts were generally the result of gradual attrition -- attrition over periods of hours, days and even weeks. Replacement pipelines ran from CONUS training and production bases to overseas replacement commands/depots and eventually to the on-line units. In World War II, division-sized units were withdrawn from battle and sent well to the rear for reconstitution. For example, the 28th Division, after a two-week battle in the Schmidt Campaign (1-14 November 1944, in the Hurtgen Forest) was essentially destroyed as a fighting unit, withdrawn from the battle and sent to a quiet sector in the Ardennes for rehabilitation. (It is of interest to note that the cumulative losses of the division as a whole were about 30 percent during this two week period. Replacements during that same two-week period had restored the division strength to 94 percent -- at which level the division was still judged to be combat ineffective. Another historical example of unit reconstitution, the 106th Infantry Division, is attached.) In addition to the relatively gradual attrition of combat power, two other significant factors differentiate the past battlefields from the airland integrated battlefield of the future. First, US and allied forces were on the offense for most of the land battle on the European continent. Thus, the initiative was ours; we could stop, defend, regroup, effect replacements of personnel and equipment and continue the advance at times of our choosing. Second, the mobility of forces and the resultant capability to exploit unit vulnerabilities were considerably less at that time, as compared to current and future capabilities.

In other words, the future airland integrated battlefield will not afford the luxury of long personnel and materiel pipelines, withdrawal and rehabilitation of decimated forces or the opportunity for "leisurely" reorganizations. Soviet/Warsaw Pact capabilities and doctrine preclude even one to two day(s) reconstitution/restoration efforts, as practiced in past wars. Nuclear and chemical weapons play a lead role in the Soviet's offensive military strategy. Their forces are structured, trained and equipped to fight on the nuclear and chemical battlefield. In particular, they view nuclear weapons as a fundamental part of their warfighting capability and not simply an adjunct to conventional forces. The Soviets emphasize the decisive effects and aspects of a nuclear war; a large scale decisive use of nuclear weapons in the early stage of the war will, in their view, allow victory before NATO can fully mobilize its personnel and logistic resources. Soviet/WP ground forces will be used to exploit the nuclear strikes by destroying NATO resources and by seizing key terrain and objectives. The mechanization of the Soviet/WP motorized rifle and tank forces allow them to rapidly exploit the use of nuclear (or other mass destruction) weapons. These ground forces are structured and equipped to be highly mobile, thereby:

- Exacerbating NATO's targeting problems;
- Maximizing the opportunity to exploit the shock and chaos resulting from nuclear strikes; and
- Permitting reduced exposure in transiting radioactive/chemically contaminated areas.

Soviet/WP offensive operations are emphasized. Once the conflict starts, second echelon regiments of the attacking divisions could be as close as 15 kilometers to the forward line of own troops (FLOT); the second echelon division as close as 30 to 50 kilometers. In effect, doctrinal Soviet echelonment could result in the commitment of second echelon regiments as early as about 18 hours; commitment of the second echelon divisions could occur as early as two days, assuming a stout NATO defense against the first echelon formations or the perceived creation of an exploitable situation by the attacker. While this highlights activities likely to be occurring in the main battle area, the rear area units cannot relax simply because of distance separating them from the FLOT. Soviet airborne and airmobile forces have been specially trained for vertical exploitation of nuclear strikes by attacking deep in the defender's rear areas.

3. OBJECTIVE.

The goal of the brigade/division is to maintain mission integrity and to accomplish assigned tasks against Threat attempts to exploit use of weapons of mass destruction. Accordingly, this effort examines alternative actions that may be taken to attain this goal with attrited forces.

4. ALTERNATIVE CONSIDERATIONS.

The problem cannot be addressed without a realization that the actions to be taken and the urgency required are a function of time available, which, for the most part, will be controlled by the enemy. Such actions can be categorized into two general classes: pre-strike (before Threat use of nuclear/chemical weapons); and post-strike (post-threat nuclear/chemical use). Pre-strike actions include measures to avoid becoming a target but, if targeted, to minimize the effects of such an attack. The more survivable (or less vulnerable) a unit is, the less effort required to restore some degree of lost mission capability. Post-strike actions include those required to rapidly regain combat capabilities in sector. Post-strike actions should be time-phased to counter Soviet exploitation attempts:

- 0-18 hours: Highly crucial actions necessary to ensure a successful defense against Soviet first echelon regiments immediately and against the Soviet second echelon regiments within about 18 hours.

- 18-48 hours: Added measures necessary to defend against the second echelon regiments and to prepare to counter an attack by second echelon divisions.

- 48(+) hours: Longer-term measures necessary to reassemble, regroup and reequip remnants of the forces most affected by Soviet nuclear/chemical strikes and to deploy forces and equipment drawn from unaffected sectors of the brigade/division to return the overall force capability to one of maximum soundness.

In short, the period of approximately 48 hours immediately following strikes by weapons of mass destruction must be devoted primarily to reacting to the enemy and "putting out the immediate brush fires". Only after the immediate crisis has stabilized can the longer-term measures be effectively implemented, with the resultant restoration of a balanced force capability. It must be realized,

however, that "time" phases are not sharply defined or as rigid as may be inferred above. Long-term restoration measures certainly would be initiated much sooner than 48 hours; in fact, such actions would be put into effect as soon as the need became apparent. The key point, however, is that there are primary, urgent tasks that need to be accomplished early if the force is to maintain mission integrity.

a. Pre-Strike Considerations to Reduce Vulnerability. Chapter 5, RB 100-34, presents pertinent considerations regarding indications of Soviet intent to employ nuclear/chemical weapons, employment doctrine and various actions that can be taken to reduce vulnerability to the effects of any such employment. Some of the key pre-strike actions are:

- Plan:
 - Alternative courses of action possible with loss of key headquarters/units/communications.
 - Alternate routes.
- Disperse:
 - Company/battery size units laterally and in depth.
 - Alternate and primary CPs and internal elements thereof.
 - CSS facilities, subject to transportation nets.
- Deceive:
 - Electronic warfare.
 - Dummy positions.
 - Misleading troop movements.
- Hide:
 - Camouflage.
 - Reduce communications signature.
 - Reduce thermal signature.
 - Enforce light and noise discipline.
 - Conceal locations in existing natural and man-made features.

- Move:
 - Randomly, in time and space.
 - During periods of poor visibility.
 - Silently (electronically).
- Protect:
 - Personnel.
 - Major items of equipment.
 - Command and control means.
- Preposition:
 - Ammunition/POL, etc.
 - Decontamination equipment.
- Train
 - To fight widely dispersed.
 - To mass and redisperse rapidly.
 - To operate independently.

The above list is not all inclusive but suggests some actions that can be taken to reduce the vulnerability of personnel and materiel to Threat nuclear and chemical strikes. The key point is that good pre-strike preparation reduces the trauma, chaos and resultant post-strike actions required to alleviate the effects of Threat's strikes.

b. Post-Strike Defense. Actions taken after a Threat strike(s) must be keyed to the immediate tactical situation and a keen awareness of Threat capabilities and doctrine. The actions to be taken depend upon the location of the unit(s) struck, i.e., covering force area (CFA), main battle area (MBA) or the rear area; and upon the type unit struck, e.g., CP, maneuver unit (tank or mechanized infantry), combat support unit (e.g., artillery) or a rear area unit (e.g., maintenance or supply units in the brigade support area).

(1) CFA. The general purpose of the covering force is to establish contact with the enemy, force him to deploy, cause him to reveal his main attack and

deceive him as to the location of the FEBA. Its level of engagement can be relatively light, or it can be engaged in major battles designed to cause commitment of the second echelon battalions of the leading regiment, serving in effect as a first echelon of an echeloned defensive system. Threat knowledge of our covering force operations and the fluidity of these operations tend to reduce the likelihood that the Soviets would use weapons of mass destruction in the CFA. Any use of nuclear or chemical weapons would have the "advantage" of providing a strong signal as to the route of attack favored by the Threat.

If the command and control, e.g., a CP of a covering force battalion, is rendered ineffective, it should be replaced immediately. SOPs or plans should state the manner of replacement. Alternatives include a back-up CP, assumption of command by a pre-selected subordinate commander and insertion of a capability from either the MBA or reserve. The planned operations of somewhat autonomous task forces could also be conducted in sector for a short time; however, due to the requirement to coordinate artillery, air force, attack helicopter assets, et al, in the CFA sector, decentralized control may be less desirable than the other alternatives cited.

If a maneuver unit is rendered combat-incapable, the goal is to "plug the gap", to make up for the loss of combat power in that sector of the CFA. Time and distance may preclude the physical insertion of a new unit as a replacement. If such is the case, shifting of remaining covering force maneuver assets to the affected sector (assimilating the survivors); use of artillery, close air support and attack helicopter assets; use of scatterable mines; and the use of electronic warfare assets can be employed in combination to compensate for the loss of the maneuver unit(s). Further, a portion of the MBA force in sector could be moved forward to an intermediate blocking position within the CFA, both to allow the CF to disengage from the Threat and to slow the Threat advance rate to that of the remainder of the brigade sector.

Similarly, if artillery units are attacked, the other firepower assets available to the CF can be used to compensate.

In each of the above instances, efforts must be made, consistent with the tactical situation and enemy actions, to gather up the survivors, incorporating

them into other units, evacuating the dead and evacuating the maximum possible amounts of materiel and supplies--destroying that which must be left behind.

(2) MBA. The MBA battle is the decisive battle, fought along the FEBA and in-depth within the MBA. The main battle plan is characterized by detailed planning and analysis of the threat, terrain, troops and time available. A coherent defense also requires detailed fire planning, terrain reinforcement, logistics preparation and counterattack planning. The defensive posture can vary from an essentially static terrain-retention-oriented posture (requiring the bulk of the defender's combat power to be well forward) to a dynamic, force-destruction-by-fire-and-maneuver-oriented defense (employing highly mobile, armored forces dispersed laterally and in depth). From the viewpoint of survivability/lack of vulnerability to Threat use of nuclear or chemical weapons, the active defense is clearly superior. However, the type defense selected on the continuum between position and active defense depends upon the mission, enemy, terrain and weather and troops available (METT). The active defense is not always possible or appropriate even though it is less vulnerable to nuclear or chemical weapons.

In the MBA, as in the CFA, Threat use of mass destruction weapons would be a strong indication of the sector in which they plan to attack and exploit. All actions in the first 0-18 hours must be directed toward stopping the first echelon regiments and preparing to prevent exploitation by the second-echelon regiments.

If the command and control of a MBA battalion is destroyed, it should be replaced immediately. The manner of replacement could be set forth in an SOP or included in a contingency plan. Options include an alternate battalion CP, assumption of command by a subordinate commander or insertion of personnel and communications from other sources. The operation of relatively autonomous company task forces could also be considered. However, due to the likelihood that Threat forces will attempt to exploit the use of nuclear or chemical weapons and the resultant need for unity of command in coordinating and applying the various fire-power assets, one of the alternatives that restores battalion level control may be preferable to the decentralized option.

If maneuver units are rendered combat-ineffective, the goal must be to restore a defensive capability to the sector in order to hold off the Threat first echelon regiments and be prepared to defend against the second-echelon regiments when they attempt to exploit the use of nuclear or chemical weapons and penetrate the defense. As was the case in the CFA, rapid concentration of the various fire-power assets is the quickest way to compensate for the loss of the maneuver/fire-power capabilities of the combat-ineffective companies. Unlike the CFA, however, it is unlikely that firepower alone would be adequate. The commander must insert forces, either to fill the gap on a position defense or to deploy in conjunction with barriers, mines, et al, to allow a controlled penetration and a follow-on counterattack against the flanks. While a few individuals could restore command and control, attempting to restore one or two maneuver units with a short term infusion of individual replacements would be disastrous. It would be virtually impossible to ascertain the MOSs and grades required, locate them, transport them to the necessary sector and organize them into a coherent force--all in a matter of hours and under conditions of intense combat. Unit replacements should arrive as a coherent fighting force, can assess the damage, assimilate the capable survivors and prepare for the second echelon regiments while engaged with the first echelon regiments. Sources of unit replacements (i.e., replacements of platoon or company size) include other units in the MBA and the brigade/division reserve.

As in the CFA, loss of one or two artillery units can be compensated by mission change, repositioning or reallocation of air and ground firepower assets, EW and rapidly emplaced barriers.

If supply or maintenance units are attacked in the brigade rear, the immediate impact on the strength of the MBA forces is probably minimal. The MBA forces should have sufficient supplies, parts, et al, on hand that they can operate for several hours, until at least partial replacements can be obtained from division resources or the resources of adjacent units.

The commander's first concern when his MBA forces are attacked must be survival--the overall defensive force must survive the onslaught of first and second echelon troops. It must ensure that Threat exploitation efforts are thwarted; otherwise, a deep, uncontrolled penetration is likely. After reestablishing command and control, defensive maneuver power and adequate firepower, he

must consider the longer term. Most of the short term actions will be taken based on incomplete, inadequate and probably incorrect assessments of the enemy-inflicted damage. The worst case must be assumed; in preparing to counter the first and second echelon regiments, it is better to be assertive and perhaps provide too many assets to the affected sector, rather than to be timid and either not provide sufficient assets or provide them seriatim, inviting defeat in detail.

Once the brigade/division commanders ascertain that the best possible available defense capability has been restored, the attention must be turned to the longer term. Survey teams should be dispatched as soon as possible after a nuclear or chemical strike to survey the actual damage inflicted, assess combat capabilities, insure evacuation of wounded/dead personnel and damaged materiel in accordance with SOP priorities and assist in the evacuation of uninjured personnel and undamaged equipment as time and the tactical situation allow.

In the short term, highly crucial actions taken after Threat attack of defensive forces are keyed to the doctrinal Threat echelonment of second-echelon regiments at about 18 hours. The next doctrinal employment is that of second echelon divisions in two to three days. This is a somewhat less serious problem, because the initial trauma, chaos and uncertainty existing after the Threat use of nuclear or chemical weapons have been largely overcome; assessment of the situation has allowed the proper flow of surviving personnel and equipment to the rear and unit replacements and command and control cells forward. Whereas the restoration of the defense in the post-strike near-term was a redistribution of brigade/division assets, it may be possible within two to three days for some platoon/company size unit replacements to be supplied by corps or EAC. This will clearly depend upon availability and, probably even more important, upon the intelligence assessment of the intentions of the second echelon divisions. As in any defensive situation, the commanders must position and orient available forces to best counter the enemy. The effect of the loss of maneuver, combat support or combat service support forces on a commander's actions in the longer term 18-48 hour timeframe is to limit or reduce the number of assets available, thus reducing his flexibility.

(3) Rear Area. Headquarters, maneuver units and CSS units in the brigade and division rear areas are subject to direct, exploiting attacks after being engaged by nuclear or chemical strikes. In the near-term (0-18 hours) the primary threat is air-landed or air-dropped Threat forces. Accordingly, air and ground-based air defense assets should be especially alert after nuclear or chemical strikes. Further, rear area security forces, contingency forces and ad hoc reaction forces should be prepared to respond, move to the attacked area, and set up defenses against a possible attempt at vertical envelopment. The same forces can also contain survey/reconstitution teams to assess the personnel/materiel damage and assist in restoring, at least partially, the lost or degraded capability.

If the command and control (main CP) of any battalion-size unit, brigade or division is destroyed, the prime manner of replacement should be the alternate headquarters of the respective force. Other alternatives include predesignation of a subordinate commander, insertion of personnel and communications from division or corps assets or, in the case of the reserve, assignment of the command and control capability from a CFA unit when it passes through the MBA forces. Restoration of the command and control of the maneuver (e.g., brigade or reserve force) or firepower elements (e.g., LANCE battalion) should have priority over other combat and combat service support in the rear area. This is not a denigration of combat or combat service support units, rather an acknowledgement that the temporary loss of those capabilities will have a lesser effect on the short-term results of the main battle than the loss of the main chain of command, loss of reserve force capability or (if nuclear release is imminent) of LANCE's nuclear release chain.

If a maneuver company or two in the reserve are rendered combat incapable the goal must be to restore sufficient flexibility to the combat capability of the force that it can respond to potential or threatened enemy breakthroughs. Again, as was the case in the MBA, in the short, 0-18 hour time frame, the division commander is dependent almost entirely on a reallocation of maneuver, firepower, EW and barrier emplacement resources. He could shift company task forces from less severely threatened sectors, concentrate firepower assets, reinforce natural and existing barriers and attempt to degrade the threat communication capability through the use of EW. Reinforcements external to the division may not arrive

until after attack by the second echelon regiments. If corps or EAC perceive that the second echelon divisions will attack in the division sector, unit replacements (e.g., company or battalion task forces) could be made available in two to three days.

In the long term, greater than two to three days as a minimum, and more likely to be measured in weeks, the tasks or actions usually associated with reconstitution of a unit can take place. The repair of equipment, return of medical patients to duty, arrival of individual replacements and equipment from theater or CONUS, reorganization and training are all long term actions required to restore/reconstitute/rebuild a unit. These actions are necessary in order to continue to fight any battle of more than a week or so. The longer the US and her allies can continue to successfully engage the enemy, the more likely we are to win. A protracted conflict would allow mobilization of our considerable personnel, materiel and industrial resources -- ultimately overwhelming any prospective enemy.

c. Post-Strike (Offense). Offensive action always implies taking risks, and there is a need for commanders to act boldly and take risks independently in order to exploit opportunities as they arise. There are two dimensions of risk associated with offensive or defensive combat. There is the risk of danger to men and materiel of the forces (pre-strike), and there is the risk that the operation as conceived and recovered will not accomplish its purpose (post-strike). To be successful, commanders will be required to take both kinds of risks after prudent assessment of the situation.

In addition to the previously discussed common pre-strike considerations, offensive-peculiar actions include attack at night or during inclement weather conditions. Further, deep attack formations decrease vulnerability to Threat weapons of mass destruction and at the same time provide flexibility to the commander. Follow-on units can be employed to assist committed units in seizure of objectives or to bypass units whose momentum may have been degraded by Threat actions, to include Threat use of mass destruction weapons for casualty/damage production or area denial.

The immediate determination facing the commander after attrition due to Threat's use of mass destruction weapons is whether the operation as conceived can still be successfully pursued. While this determination is being formulated, the momentum of the attack should be continued, thus taking advantage of unit morale instilled by the offensive action, maintaining the initiative and thereby reducing Threat opportunities/capabilities to further capitalize on his use of mass destruction weapons.

Should maintenance of attack momentum in the affected zone prove infeasible without the application of additional combat power, consideration may be given to consolidation of gains within this zone and as far forward as defensively feasible for the affected formation(s). The attack momentum in other zones should be maintained, and even reinforced, by reallocation of combat power in accordance with contingency plans, thereby retaining the initiative of the overall force. In this respect, consideration may be given to the diversion of some follow-on units in other attack zones in order to retain/restore the initiative against Threat weakness -- often identifiable as the zone within which he has used weapons of mass destruction. In the final analysis, the commander must choose between committing forces to protect against a possible counterattack, as opposed to committing the same combat power to insure his rapid forward momentum.

5. SUMMARY.

Enemy use of nuclear or chemical weapons could result in mass casualties in a matter of seconds. Accordingly, actions must be taken to reduce the effect of enemy weapons and to restore integrity of the operation. Pre-strike actions offer the best payoff; the more survivable/less vulnerable a unit is, the less effort is required to restore a given degree of mission capability. Post-strike actions must be keyed to the stated enemy intentions and doctrine. Those actions taken within the first 48 hours after enemy use of weapons of mass destruction are key to preventing his exploitation and subsequent loss of friendly forces and territory.

SECTION 2

EXAMPLE SITUATIONS

1. GENERAL.

This section provides examples of the application of the considerations discussed in Section 1. No attempt is made to cover all the considerations previously discussed; however, sufficient alternatives are presented to get across the variety of actions that is available to the brigade commander (and/or division commander) to restore command and control and a viable fighting capability when attacked with weapons of mass destruction.

2. ASSUMPTIONS.

Certain assumptions have been made with regard to the posturing of forces in the example brigade situation and the dimensions of the brigade area of operations within the MBA. If these assumptions are significantly altered by "real world" conditions, alternative actions may, in turn, differ significantly from those cited in the example situations. These assumptions are:

a. The division, of which the brigade is a part, will be opposed by a Threat combined arms army (CAA). This results in a division frontage of approximately 60 kilometers, or a brigade frontage of approximately 20 kilometers, in the defense.

b. The brigade sector extends approximately 30 kilometers in depth from the forward edge of the battle area.

c. Terrain and weather conditions permit the conduct of an active defense, at least in the brigades's forward task force sectors.

d. It is SOP to posture and position forces such as to preclude the likelihood of losing more than two (2) company/battery size formations to the employment of a single Threat nuclear weapon. (More than two company/battery size

formations may be affected by a single Threat nuclear use, as long as the aggregate losses do not exceed the equivalent of two companies/batteries.)

e. Intelligence will provide the division commander early indications of the probable brigade sector against which the Threat will make his main attack, permitting the advance posturing of defensive forces.

3. BRIGADE MBA.

Figure 1 depicts a possible brigade task organization and force disposition, consistent with the foregoing assumptions. As such, the dispositions depicted by Figure 1 may be viewed as those which obtain if terrain and weather conditions are conducive to such posturing. By comparing the disposition of forces with the extent of nuclear weapons effects for yields in the upper part of the Threat's spectrum of yields likely to be employed in the brigade MBA (20-KT to 60-KT), it is apparent that the dispositions depicted by Figure 1 are consistent with assumption 2.d., above. Table 1 has been provided for this purpose. The sizes of the damage circles portrayed in Table 1 are not only relative with respect to the effects tabulated for each yield and among yields, they are consistent with the scale of Figure 1 (and subsequent figures). However, for visual clarity, the effects radii are overprinted on the templated brigade area for the example situations presented.

4. SELECTED SITUATIONS.

Two example situations are presented which apply some of the considerations affecting actions available to the brigade (or division) commander to restore a lost or degraded capability that is essential to the integrity of the brigade's defensive posture and mission accomplishment. The first example considers alternative actions if only a single 60-KT Threat nuclear weapon is detonated in the brigade's sector; the second example considers alternative actions if three (2 60-KT; 1 20-KT) Threat nuclear weapons are detonated in the brigade's sector.

Figure 1. Defense of a
Brigade Sector.

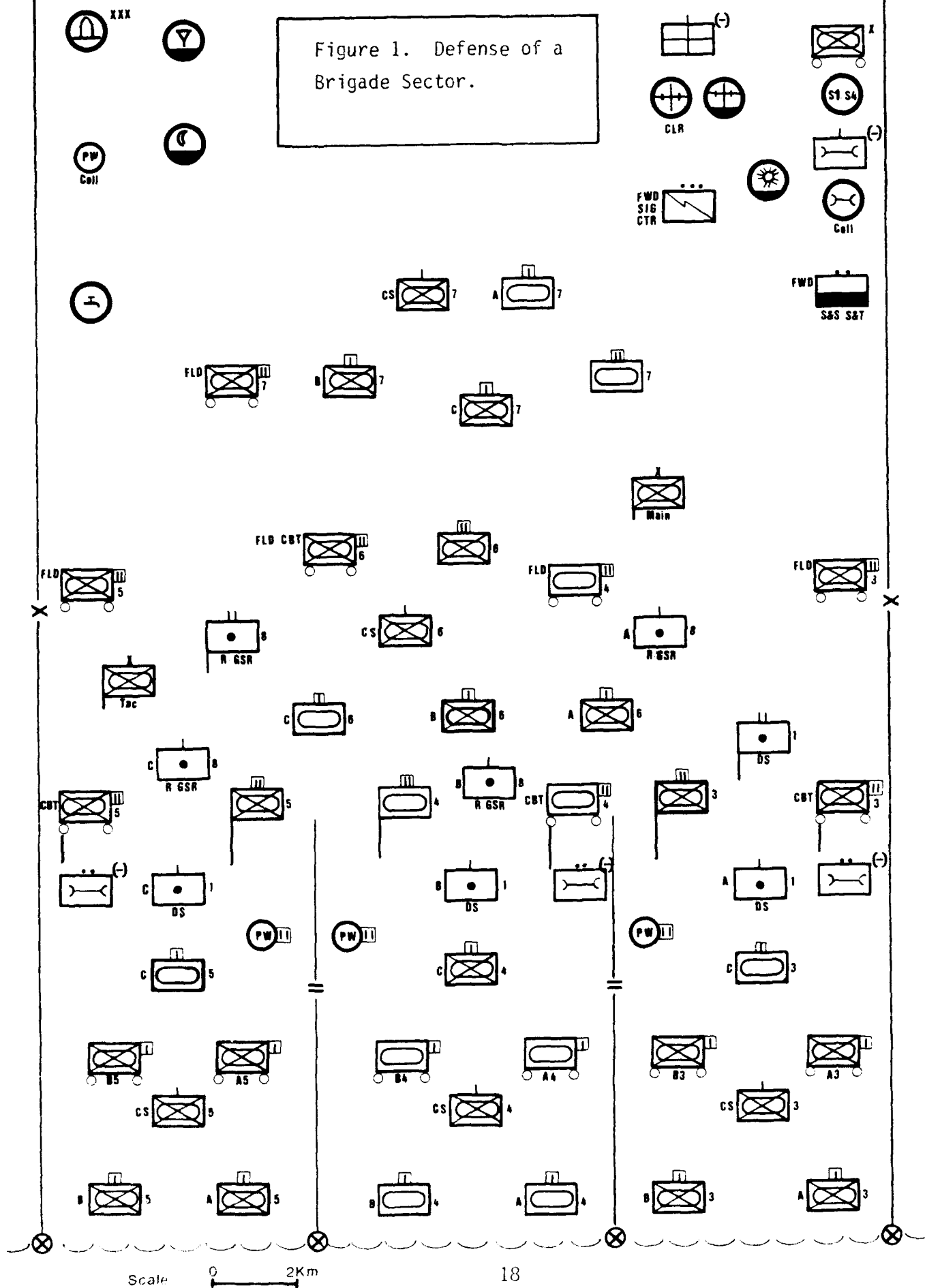
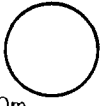

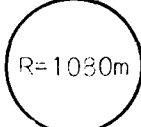
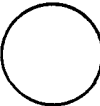
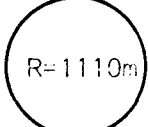
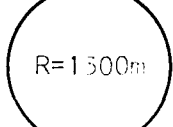
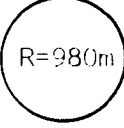
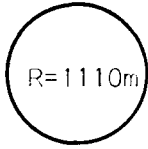
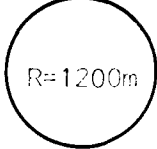
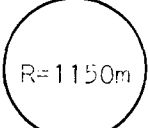
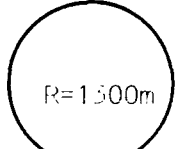
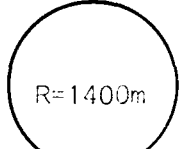
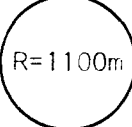
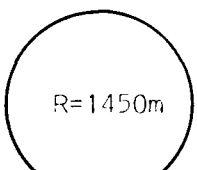
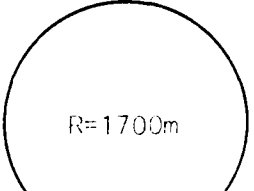
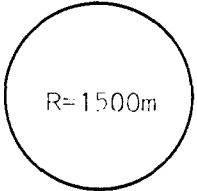
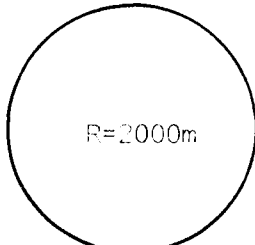
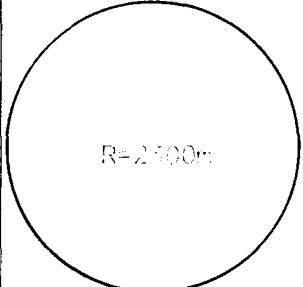
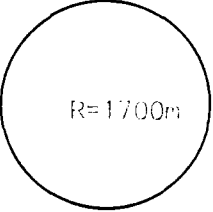
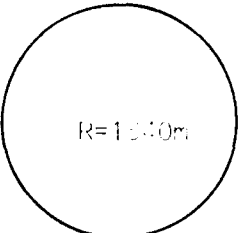
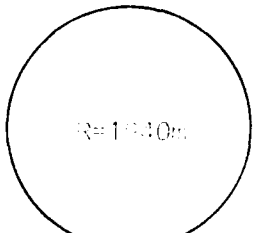


Table 1. Comparative Effects Radii for Selected Yields

POTENTIAL THREAT EFFECTS	20 KT	40 KT	60 KT
MOD DAM TKS/SP ARTY MOD/SEV DAM APCs	 R=700m	 R=920m	 R=1080m
MOD DAM WH VEH	 R=850m	 R=1110m	 R=1300m
PER CAS IN TKS	 R=980m	 R=1110m	 R=1200m
PER CAS IN APCs OR EXPOSED	 R=1150m	 R=1500m	 R=1400m
90% TREE BLOWDOWN (Type III Con- ifers)	 R=1100m	 R=1450m	 R=1700m
30% TREE BLOWDOWN (Type III Con- ifers)	 R=1500m	 R=2000m	 R=2500m
150R EXP PER OR 50-60R PER IN TKS	 R=1700m	 R=1940m	 R=1940m

a. Situation 1 (keyed to Figures 2 and 2a):

Threat 60-KT detonates about 8 kilometers into TF-4 sector, resulting in the following losses, degradations and/or impediments:

(1) TF-4 Hqs sustained 3000 rads or more to all personnel and was in a region of complete blowdown; wheel vehicles subjected to moderate damage; track vehicles subjected to light-to-moderate damage.

(2) B Battery, 1st FA Bn (DS) personnel sustained at least 650 rads, with 60 percent of the battery personnel exposed to 3000 rads or more; 50 percent of the SP artillery pieces sustained moderate damage, remainder lightly damaged; 60 percent of the wheel vehicles in battery area moderately damaged, remainder lightly damaged.

(3) Personnel in the following locations could have been exposed to more than 150 rads:

(a) TF-4 PW collection point.

(b) About 20 percent of Team C-4 personnel closest to the GZ, unless in tanks or foxholes; otherwise, Team C-4 personnel exposure is 50 rads or less.

(4) If forested areas available and utilized to maximum for cover and concealment, forest blowdown affects the following areas:

(a) TF-4 Headquarters was in a region of complete blowdown.

(b) B/1 FA (DS) was in a region of complete to greater than 90 percent blowdown.

(c) TF-4 PW point was in a region of 30-90 percent blowdown.

(d) About 60 percent of Team C-4 area sustained 30-90 percent blowdown.

(e) 30 percent blowdown extends to flank of B Battery, 8th FA Bn (R/GSR), but impact on unit should be insignificant; less than 20 percent of the battery's area sustains even 10 percent blowdown.

(5) Given the presence of forests, forest floor fuels (i.e., debris on the forest floor) and fire-weather conditions (low humidity, high air temperature

Figure 2. Effect of 60-KT on Brigade.

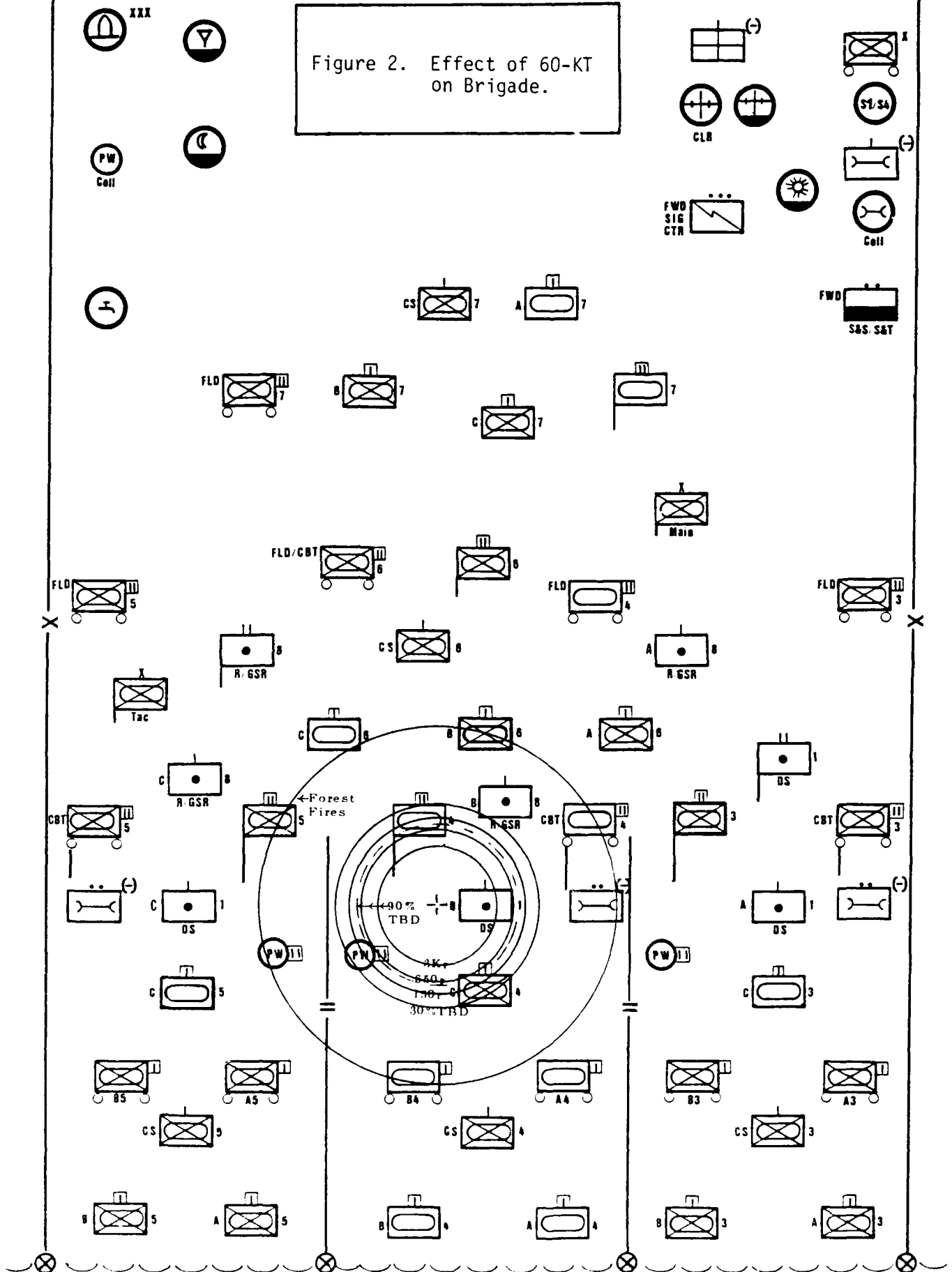
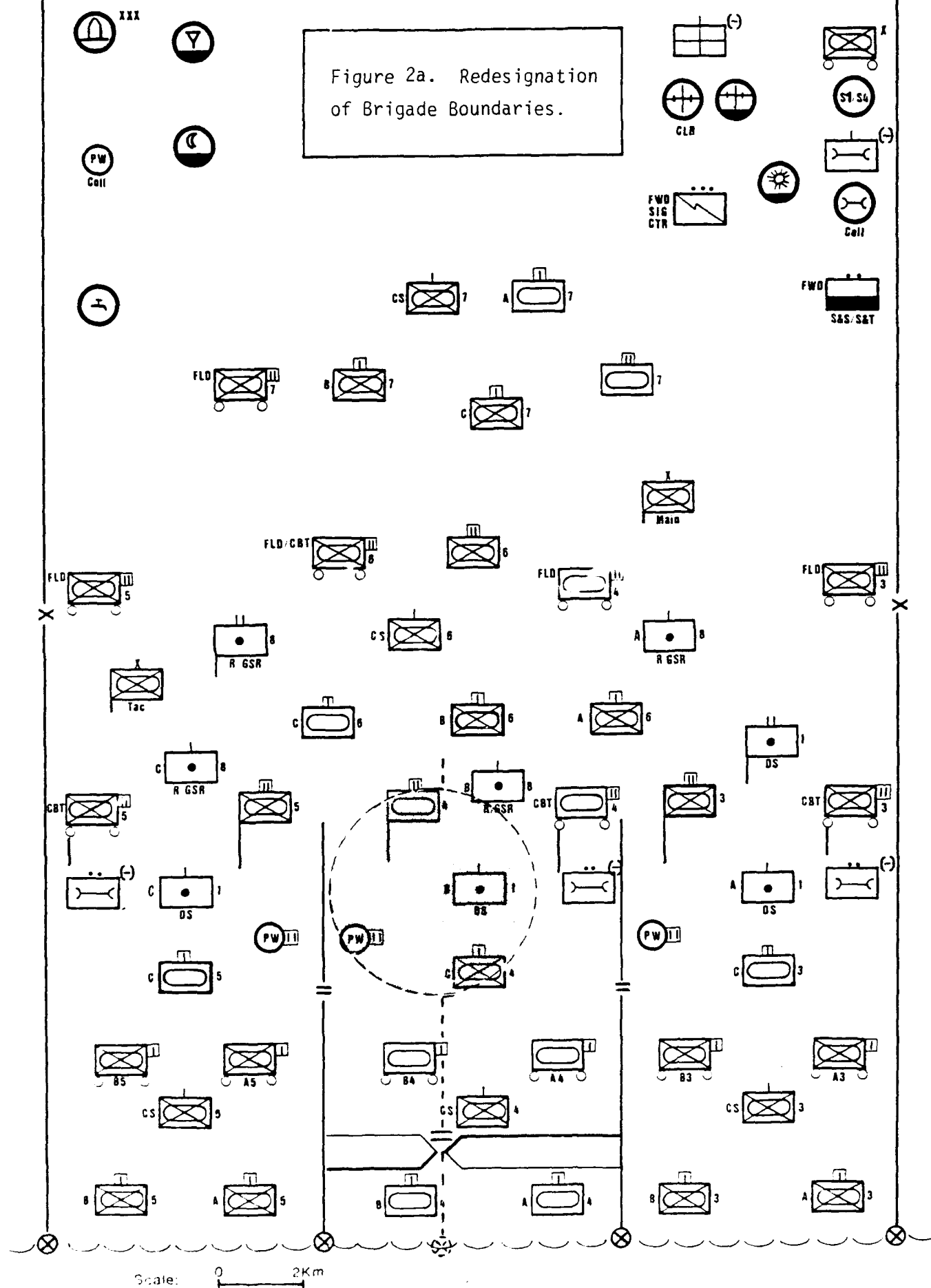


Figure 2a. Redesignation
of Brigade Boundaries.



and no precipitation for extended periods), wildland fires may occur at radial distances of about 4000 meters from the GZ. However, a raging fire storm will not be probable unless fire-weather conditions have prevailed for several weeks. Thus, any fires that are started and that may pose a threat to units should be controllable, if not naturally unsustainable.

Since it must be assumed that the Threat is willing to accept terrain alteration created by his use of nuclear weapons, it is also assumable that the Threat, in this situation, does not intend to make his main thrust through the TF-4 sector - particularly if this area had been heavily wooded and/or has few major roads leading to the Threat's objective area(s). Rather, the Threat is more likely to skirt the affected area by making a major thrust through either TF-3 or TF-5 sector. Admittedly, the Threat would probably use more than a single nuclear weapon in the brigade sector through which he planned to make a major attack, but for purposes of this initial discussion, we'll stick to this single weapon use and the actions that are available to the brigade commander to restore command and control integrity of the MBA. (Subsequent discussions will address multiple weapon effects on the brigade.)

While the brigade has sustained an attack from a 60-KT yield, the resultant losses incurred have only been a TF command and control headquarters and a direct support FA battery; the combat power of the affected TF is essentially intact. Thus, the immediate problem is to reestablish command and control of the unaffected TF components and to restore a channel for field artillery support. This may be accomplished in several ways.

(1) Alternative 1. By contingency plan, SOP or directive, designate the TF/XO (if he was not in the CP area at time of attack) or the senior company/team commander within TF-4 as commander, TF-4. (The latter may be preferred, if the XO, TF-4, is placed in charge of the damage control and assessment team (CAT).) If necessary to the maintenance of communications with brigade, provide additional communication resources to the control element established, either from brigade headquarters or TF-6/TF-7. In coordination with division artillery commander, designate B Battery, 8th FA Bn as the interim direct support battery, replacing the destroyed B/1 FA. If the initial mission of the 8th FA Bn is reinforcing (R), this action is nothing more than a formality; with a reinforcing mission,

artillery priority response to calls for fires is from the reinforced unit (in this case, the 1st FA Bn), which by tactical mission includes responding to requests from the reinforced battalion's forward observers. If, instead, the tactical mission of the 8th FA Bn were general support-reinforcing (GSR), the initial priority response to calls for fires would have been from division artillery and then from the reinforced artillery battalion. Coordination with the division artillery commander changes this priority of effort, making the B/8 FA directly responsive to requests from the FOs with the teams of TF-4.

(a) Advantages: Maintains initial, forward integrity of the MBA defensive posture in three sectors; retains initial sector boundaries; conforms with span of control capabilities of units involved; involves little or no insertion of additional resources into the affected sector; does not degrade command and control of the contingency/reserve formations (TF-6/TF-7) or brigade headquarters; except for possibility of some units relocating to avoid fires created by the nuclear burst, unit movement is not required; denies the Threat an exposed flank into either TF-3 or TF-5 sector.

(b) Disadvantages: Does not provide the expertise or experienced command and control talents that would probably be provided by commander and staff of either TF-6 or TF-7 or by elements of the brigade's command and control staff; if pressure forces the brigade to fall back, areas adjacent to the nuclear affected region could become congested, creating a lucrative target for further employment of Threat weapons of mass destruction. (Careful planning and coordinated movement may negate the latter disadvantage.)

(2) Alternative 2. By contingency plan or directive, redesignate sector boundaries creating two TF sector (TF-3 and TF-5) centered on the nuclear damaged area. (See Figure 2a.) Team A-4, its team trains, TF-4 combat support company (CS-4) (minus) and TF-4 combat trains (minus) revert to control of TF-3. Team B-4, its team trains and supporting elements of CS-4 revert to control of TF-5. XO, TF-4, is in charge of the damage control and assessment team, utilizing all necessary components of the TF-4 field trains and assisted by Team C-4, in the conduct of survey and reclamation efforts in the nuclear affected region. On order, Team C-4 reverts to control of TF-3.

(a) Advantages: Maintains initial forward integrity of the MBA defense posture; conforms numerically with span of control capabilities of units involved; involves no insertion of additional resources into the affected area; entails no change to artillery tactical missions; other than possibility stated in (1)(a), unit movements not required; denies the Threat an exposed flank into either TF sectors; takes advantage of experienced command and control staffs.

(b) Disadvantages: Expands area of command and control for both TF-3 and TF-5 significantly; areas are controllable but not as efficiently or effectively as before; has same potential congestive problem as (1)(b).

(3) Alternative 3. Designate commander, TF-6, as the commander, TF-4, with authority to draw on command and control resources of TF-6 to effect command and control, if necessary, of TF-4 sector. XO, TF-6, assumes control of TF-6. XO, TF-4, directs the damage control and assessment team efforts in the nuclear affected area, using team B-6 assistance if necessary for expediency. As in (1) above, designate B/8 FA as the interim direct support battery for TF-4.

(a) Advantages: This alternative has the same advantages as (1)(a) less the effect on TF-6 command and control capabilities, which is partially offset in that degradation of TF-6 command and control results from an improvement in command and control of the affected area (TF-4).

(b) Disadvantages: Degrades command and control expertise and experience of TF-6 at a time when this TF is expected to become more actively involved in contingency planning to counter possible Threat options to exploit his nuclear strike; has the same potential congestive problems as (1) or (2).

Other alternative actions could be applied, to include combinations of above possibilities. The actual choice will be made by the brigade commander in light of the actual terrain alterations caused by the nuclear burst and other situational conditions within his brigade sector (e.g., MEIT and weather).

b. Situation 2 (keyed to Figures 3 and 3a):

Threat detonates two 60-KT and one 20-KT weapons in the brigade sector as indicated at Figure 3, resulting in the losses, degradations and/or impediments discussed below. Due to the complex interactions of a multiple burst attack, the alternative restorative actions a commander may adopt are discussed by categorical type of actions implemented. Where appropriate, advantages and disadvantages are then discussed, as they pertain to the defensive option that could be adopted by the commander.

(1) TF-5 sector (60-KT):

(a) Team C-5 destroyed; major items of equipment exposed to moderate-to-severe damage; personnel exposed to 3000r or more.

(b) Btry, 1st FA Bn essentially destroyed; howitzers exposed to at least moderate damage; howitzer crews, FDC personnel and battery headquarters personnel exposed to at least 3000r; all other personnel in battery area exposed to at least 650r.

(c) TF-5 CP subjected to about 30 percent tree blowdown; however, resulting incidence of casualties/damages to CP personnel and equipment should be insignificant, if any.

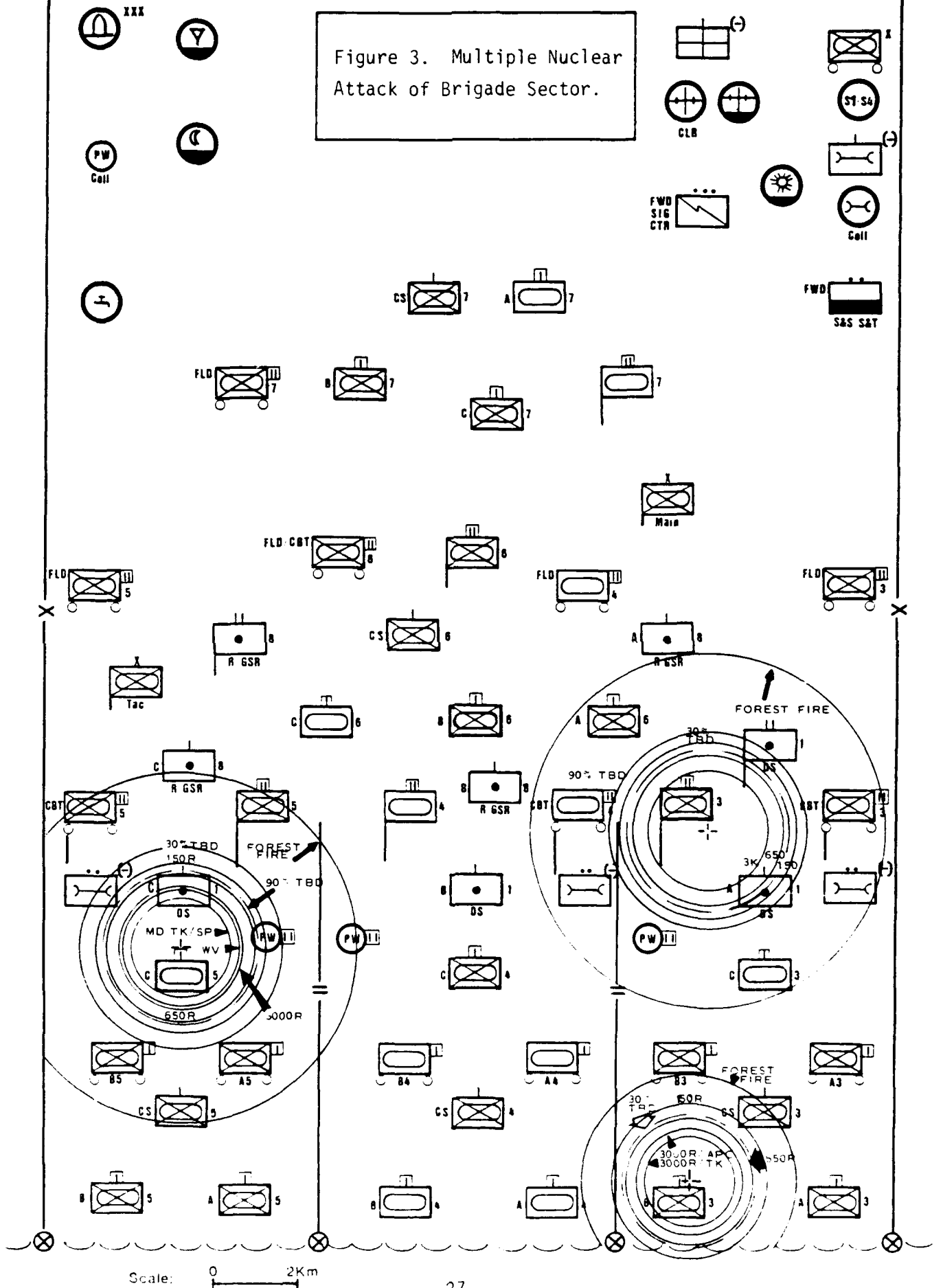
(d) If physically established and occupied, personnel at the PW point may have been exposed to 150r, but are in the 90 percent to 30 percent blowdown region.

(e) Risks to other units within the sector derive from the potential creation of scattered forest fires, assuming forested areas were available and used for cover and concealment.

(2) TF-3 sector (20-KT and 60-KT):

(a) Team B-3 and supporting elements of the combat support company (CS-3) were destroyed by the 20-KT detonation in the forward area of the TF

Figure 3. Multiple Nuclear Attack of Brigade Sector.



sector; Team B-3 Trains survived the attack, as did other elements within the forward area.

(b) The 60-KT detonation in TF rear area destroyed the TF CP and the CP of the 1st FA Bn. Additionally, A Btry, 1st FA Bn (DS); suffered extensive damage and casualties, tree blowdown and nuclear radiation; 80 percent of the battery area is contained between complete blowdown and 30 percent blowdown regions and about 60 percent of the battery's personnel were exposed to 150-3000 rads. The relatively unaffected personnel of A/1 FA (about 40%) revert to force artillery control as replacement personnel.

(c) Risks to other units within the sector derive from the potential creation of scattered forest fires, assuming forested areas were available and used for cover and concealment.

(3) Collectively, the brigade has lost the services and resources of two (2) Bn/TF level command and control elements (TF-3 and 1st FA Bn); two (2) company size combat teams (B-3 and C-5); two (2) direct support field artillery batteries (A/1 and C/1); elements of TF-3 combat support company (CS-3) positioned in support of Tm B-3.

Based on Threat's use of nuclear weapons, it can be surmised that a major Threat attack is imminent; that Threat will attempt to avoid any obstacles created by his nuclear use, such as rubble and tree blowdown areas; and, accordingly, Threat's major effort in the brigade's area of operations will be directed against TF-4's sector. However, the time pressing matter is to recover personnel from Tm B-3's sector before the battle is joined, in addition to restorative actions within the MBA. The sequence of discussions which follow is not intended to infer priority of effort; rather, the activities discussed will take place concurrently.

(1) Recovery Actions:

(a) XO, TF-3, directed to assemble CAT from TF-3 field trains and take charge of damage survey and reclamation efforts within TF-3 sector. Pending relief by the CAT, CO, CS-3, with assistance of personnel and equipment from team trains (B-3 and A-3) and platoon from Tm C-3, recover survivors, KIAs and

serviceable equipment from Tm B-3 sector. Pending relief by the CAT, OIC/NCOIC, combat trains (TF-3), and assisted by survivors of A/1 FA Btry and personnel and equipment from TF-4's, combat trains, recover survivors, KIAs and serviceable equipment from TF-3's rear area; dispatch maintenance team from maintenance section to support CO, CS-3 in the forward area.

(b) XO, TF-5, directed to assemble CAT from TF-5 field trains and take charge of damage survey and reclamation efforts within TF-5 sector. Pending relief by CAT, OIC/NCOIC, combat trains (TF-5), with assistance from CS-5, Tm A-5 and B-5 trains and TF-5 headquarters company personnel and equipment, recover survivors, KIAs and serviceable equipment from the affected areas.

(c) Request division provide aeromedical evacuation teams to evacuation sites vicinity TF-3 Cbt Trains and TF-5 Cbt Trains areas.

(d) Direct brigade S-4 to establish equipment collection points vicinity of TF-3 and TF-5 combat trains areas.

(2) Restoration of command and control of the affected sectors:

(a) Company Team A-3, and supporting team trains, revert to brigade control; retain mission of defending in sector and screen brigade flank in sector.

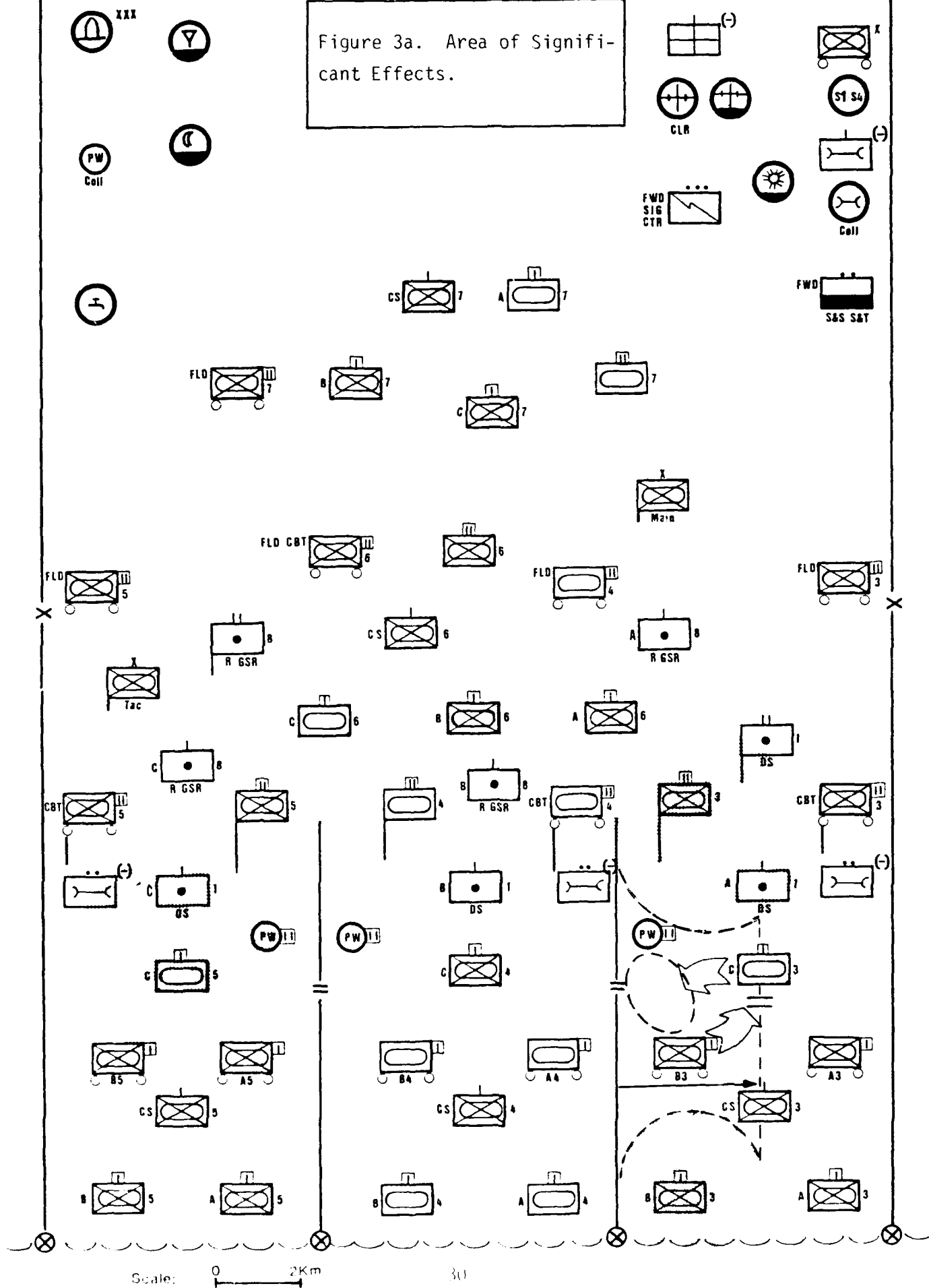
(b) Team trains (B-3) revert to support of Company Team C-3.

(c) Company Team C-3 revert to control of TF-4, upon arrival of CAT in sector.

(d) TF-4 left boundary shifts about 3 kilometers left (Figure 3a). (TF-4 commander plans to leave Company Team C-3 in the area between the two bursts in TF-3 sector, but with C-3 occupying positions vicinity of dashed "goose egg." from which C-3 can conduct spoiling attack and protect against Threat flank approach, should Company Team A-3 be forced back.)

(e) TF-5 commander still retains command and control in his sector.

Figure 3a. Area of Significant Effects.



(3) Reassignment of artillery missions:

(a) Brigade commander requests division provide or obtain additional artillery battalion for his sector.

(b) Depending on tactical mission presently assigned to 8th Field Artillery Battalion, brigade commander may request change of mission to permit priority response for call of fires to be given to FISTs with Company Team A-5 and TF-5. (i.e., A Btry, 8th FA, priority response is to requests from Tm A-3; C Btry, 8th FA, priority response is to TF-5 company teams' requests.)

(c) Pending receipt of additional artillery support and controlling headquarters, 8th FA Bn coordinates fires for the brigade sector. Once additional support is in sector, coordination and responsibilities may be shared with added FA battalion headquarters. However, at least one additional artillery battery should be positioned to cover both TF-4 and TF-5 sectors, under command and control of the 8th FA Bn. With the addition of a complete FA battalion, the 8th FA Bn would then coordinate the fires of four (4) firing batteries (B/1, B/8, C/8 and an added battery); the added FA battalion headquarters would coordinate the fires of its other two organic batteries plus A/8. (The other two added FA batteries would be positioned to support TF-4 and Company Team A-3 sectors.)

(4) Combat service support actions:

(a) Combat and field trains (TF-3) revert to brigade control.

(b) Commander, TF-4, directs adjustment of resources in company team trains supporting Tm C-3. (Recall that C-3 is supported by team trains established for Tm B-3, a mech heavy team; Tm C-3 is tank heavy.)

(5) Reallocation of company teams:

(a) The brigade commander envisions establishment of a "killing zone" within TF-4 sector. However, if TF-5, as now constituted, is subjected to an intensive supporting attack, the Threat salient (controlled penetration) probably can not be contained within TF-4 sector. Accordingly, the brigade commander

directs TF-5 commander to select an assembly area for a third company team and to recommend the type of team most appropriate, considering the terrain alteration resulting from the Threat nuclear strike. TF-5 commander is further requested to recommend whether his sector should be widened if he receives a third company team. (TF-5 will develop the recommendation in coordination with TF-4.)

(b) The brigade commander alerts TF-6 commander to be prepared to relinquish either a tank heavy or mech heavy company team to TF-5.

The foregoing actions, for the most part, are predicated on the brigade retaining the maximum defensive posture well forward in the MBA. Maintenance of this posture has its advantages, but is not devoid of disadvantages (real or potential):

(1) Advantages: Maintains initial, forward integrity of the MBA defensive posture in three manageable sectors; conforms with span of command and control capabilities of units (elements) involved; involves insertion, at most, of one company team into the affected sectors; does not degrade the command and control of the brigade's contingency/reserve formations (TF-6 and TF-7); can be accommodated with minimal unit relocation; denies the Threat terrain in the forward MBA except by force on his part.

(2) Disadvantages: Depending on "actual" terrain factors, TF-5's forward deployed company teams may be unable to effectively maneuver around the damaged area created by the Threat nuclear strike, should Threat pressure so require; requires insertion of a company team in TF-5 sector, if salient is to be contained in the center, TF-4, sector and TF-5 is also receiving heavy frontal pressure.

Alternatively, the brigade commander may consider that his overall posture is improved if he relinquishes some terrain before the Threat launches his ground attack. For example, if the defense of TF-5's sector depended primarily on the TF being capable of freely maneuvering throughout the nuclear affected part of the sector, the brigade commander could, justifiably, opt to anchor his defense in this sector behind the nuclear affected area. However, should this alternative be adopted, it will probably be necessary to leave a company team in the forward area

to screen the brigade flank; otherwise, the adjacent brigade incurs an exposed flank. Also, additional forces should be provided to TF-4; otherwise, this TF risks being outflanked in the forward part of its sector by Threat elements conducting the major or supporting attack (if not by both). Thus, this alternative does not appear to really permit reduction of forces in the forward area; further, it requires the shifting of forces from either TF-6 or TF-7 to establish defenses tied to the nuclear affected area in TF-5's sector.

Another alternative, is to leave only light covering force elements in the forward MBA and anchor the main line of defense on both of the 60-KT nuclear affected areas; however, this alternative requires major repositioning of forces within the brigade sector and throughout the depth of the brigade. Faced with the imminency of Threat's attack, this is no time to attempt such endeavors of this magnitude.

5. SUMMARY.

Within the assumption and defensive options discussed, it is readily apparent that brigade (and division) formations should be capable of sustaining multiple attacks by weapons of mass destruction, while also maintaining a capability of regenerating, from resources immediately available, a viable defensive posture. As discussed in Section 1 and demonstrated in the sample situations, pay offs accrue from pre-strike reduction of vulnerability and post-strike actions keyed to stated Threat doctrine (to include probable Threat avoidance of terrain alterations resulting from his use of mass destruction weapons).

APPENDIX A
ENCIRCLED FORCES AND UNIT RECONSTITUTION --
AN HISTORICAL EXAMPLE

1. Following is a brief resume of the World War II history of the 106th Infantry Division. Of interest are the descriptions of the operations of encircled forces in the Ardennes Campaign (and their premature surrender) and the method by which a decimated division was rebuilt using a combination of unit and individual replacements.

- Activated 15 March 1943;
- Landed in England November 1944;
- Deployed to France 1-6 December 1944;
- Relieved the 2d Inf Div in place along the Belgian-German border on 11 December occupying a 35km sector east of SAINT VITH with a defensive mission under VIII Corps. The division was deployed with its three regiments, the 422d, 423d and the 424th, on line from north to south in that order. A battalion of the 423d was in division reserve about 20km to the rear.* The sector had been quiet since it was first occupied by the 4th Inf Div on 13 September 1944.

2. The order of battle of the 106th Inf Div is shown on page A-5.

3. At 0530 on 16 December, the division was attacked by two panzer divisions and two volksgrenadier (infantry) divisions as the Germans launched their counter-offensive in the Ardennes. The division reserve was committed under its parent regiment late the same day. Early on 17 Dec, the 422d and 423d Inf Regts and the DS artillery, the 589th and 590th FA Bns, were encircled by the advancing enemy units. (See Enclosure 2.) The two regiments and the FA Bn were ordered by division to attack to the west to regain contact with the remainder of the division.

*The 14th Cavalry Group, less one squadron, was attached to the 106th Division during the period 11-19 December. It was occupying a sector between the 422d Inf Regt and the adjoining division to the north, the 99th. Neither its operations during this period nor those of other attached units are discussed in this paper as they are not germane to the subject.

An air drop of ammunition, food and water was requested but did not materialize. The two regimental commanders agreed to commence the attack to regain contact with friendly forces at daylight on 18 December; there is no record of further coordination between the two regiments.* Accordingly, both regiments and the FA Bn commenced moving toward the west on the morning of the 18th, the 423d starting out at 0900, the 422d at 1000. Although there were numerous enemy units in the area, the Germans were apparently not aware of the presence of a large number of encircled US troops. Initial contacts by the two regiments amounted to engagements with enemy units who happened to be in the vicinity while in the process of exploiting the breakthrough. Evidence of the lack of coordination was a fire fight between a battalion of the 422d and elements of the 423d which occurred during the morning of 19 December.

4. By the afternoon of 19 December, the 106th Division's cut-off elements had progressed some six kilometers to the west and had suffered heavy casualties. The 590th FA Bn had been overrun and captured.** All units were short of ammunition, except for caliber .30, and medical supplies and rations were almost exhausted. At about the same time, 1600 on 19 December, and apparently without coordination, the two regimental commanders ordered their troops to destroy their weapons and then surrendered their units.*** A few isolated groups of officers and men escaped and made their way to friendly units eight to ten kilometers to the west.

*Significantly, unity of command was never established in the pocket.

**The 589th FA Bn, whose normal mission was DS of the 422d Inf Regt, escaped from the pocket after losing 9 of its 12 pieces and was destroyed in fighting farther to the west on 23 Dec.

***The author of the 106th Infantry Division's History comments as follows on this surrender: "What had started out, in theory, as a coordinated attack by two regiments of infantry and one battalion of field artillery had in fact ended in a tragedy of futile efforts by brave, bewildered men. One cannot but deplore Division's continued decision to handle its two cut-off regiments by remote control, while one wonders at the fog of war which evidently blanketed the regiments from one another during their [attempt to break out]. The regiments in their perimeter defenses. . . despite the dwindling [supplies of all classes] could have lasted for several days. Supplied by air they could have continued indefinitely."

5. The surrender left one infantry regiment, the 424th, its DS artillery battalion, and the 155mm artillery battalion as the 106th Division's only combat effective fighting elements. (The 424th barely escaped encirclement by the 62d and the 18th VG Divs, and for a time even its survival was in doubt -- particularly when the regiment had its back to the Our River. (See page A-6.)

6. The 112th Infantry Regiment and the 229th FA Bn, having been cut off from their parent unit, the 28th Infantry Division, defending the adjacent sector to the south, were attached to the 106th Division (-) on 19 December.

7. On 22 December, the CG, XVIII Corps, who had assumed responsibility for the sector, relieved the CG, 106th Division, from command and appointed the assistant division commander as acting division commander.

8. By 30 December, the 112th Infantry Regiment and the 229th FA Battalion had returned to control of the 28th Division. The 591st and 592d FA Battalions were attached to XVIII Corps Artillery, and the 106th Division (-), along with its remaining infantry regiment, was pulled out of the line. The casualties incurred by the division in the preceding two week period are shown below.

Division strength on 16 December	14024
Casualties through 30 December	8490
(Killed in action)	(415)
(Wounded in action)	(1254)
(Missing in action)	(6821)
Remaining strength	5534 (39% of 16 Dec strength)

9. On 31 December, the 422d and 423d Infantry Regiments, the 589th and 590th FA Battalions and the 106th Recon Troop, which had also been overrun and captured on 17 December, were inactivated by First Army.

10. Between 13 January and 7 March 1945, the 106th Division (-) participated in a number of combat operations, generally in an economy of force role. During this period a new division commander was assigned.

11. On 7 March, the division's combat role ended, and it moved to western France for reconstitution. The 3d and 159th Infantry Regiments and the 401st and 627th FA Battalions, which had recently arrived in the theater from the United States, were assigned to the 106th Division and redesignated to replace those units which had been inactivated. Additionally, 6606 officers and men were assigned as individual replacements. (Of these, 2227 came from replacement training centers in the US, and the remainder were furnished by other arms and services in the theater and were given six weeks training as infantrymen before being assigned to the division.) Equipment shortages in the original divisional units were filled from theater stocks.

12. In late April, the division was given the mission of guarding several hundred thousand prisoners of war. In September, it was returned to the US for inactivation.

The foregoing was extracted from St. Vith, Lion in the Way, The 106th Infantry Division in World War II, by Colonel R. Ernest Dupuy, Infantry Journal Press, 1949.

Order of Battle, 106th Infantry Division, 11-19 December 1944

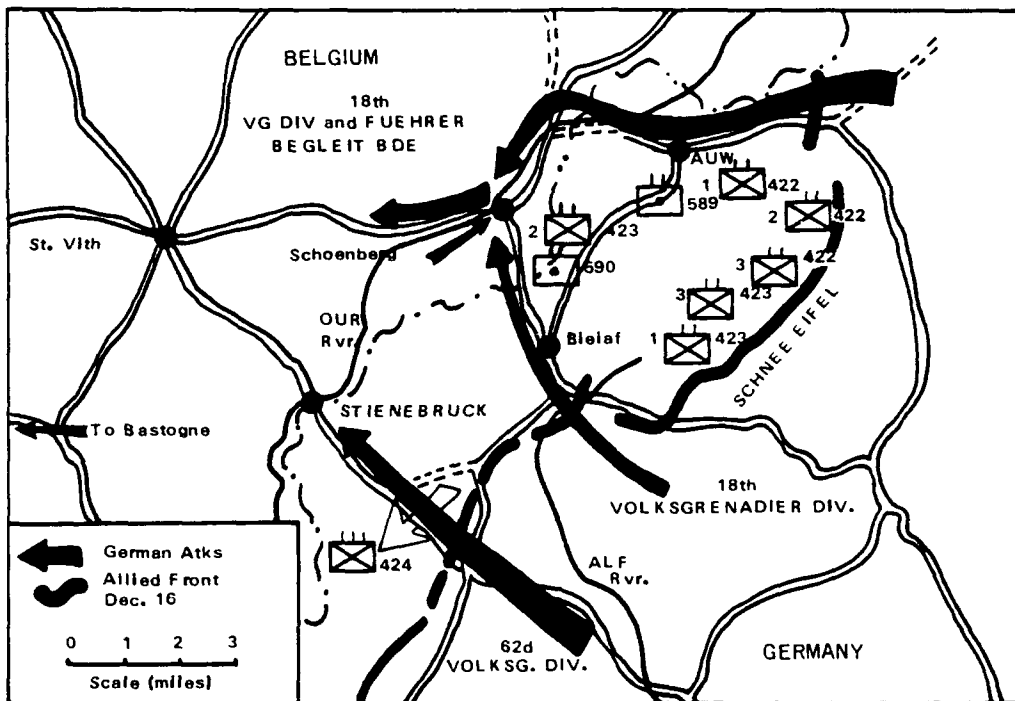
Organic

HQ & HQ Co, 106th Infantry Division
106th Signal Co
806th Ordnance Co (Light Maintenance)
106th Quartermaster Co
331st Medical Bn
106th Reconnaissance Troop
106th Military Police Platoon
81st Engineer Battalion
422d Infantry Regiment
423d Infantry Regiment
424th Infantry Regiment
HQ & HQ Btry, 106th Infantry Division Artillery
589th FA Bn (105mm, towed)
590th FA Bn (105mm, towed)
591st FA Bn (105mm, towed)
592nd FA Bn (155mm, towed)

Attached

14th Cavalry Group
275th Armored Field Artillery Bn (105mm SP)(DS 14th Cav Gp)
820th Tank Destroyer Bn (Towed)(Further attached to 14th Cav Gp)
168th Engineer Bn (Cbt)(DS 81st Engineer Bn)
634th AAA Bn

Enclosure 1



In the northern part of the Fifth Panzer Army's zone, a Volksgrenadier Div and a Panzer Bde circled the flanks of the Schnee Eifel, a ridge defended by two regiments of the 106th Infantry Division. These German drives converged at Schoenberg, trapping the Americans on the ridge and opening the road to Saint Vith. Meanwhile, a second Volksgrenadier Div thrust northwest to Steinebruck pushed back the third regiment of the 106th.

Sketch Map: 106th Inf Div Encirclement, 16 December 1944

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